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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,414	10/24/2003	Ronald C. Hawley	ON W20-001-09-US	1931
22854	7590	04/19/2006	EXAMINER	
MOORE, HANSEN & SUMNER, PLLP 225 SOUTH SIXTH ST MINNEAPOLIS, MN 55402			HUSON, MONICA ANNE	
			ART UNIT	PAPER NUMBER

1732

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

CM

<b>Office Action Summary</b>	<b>Application No.</b> 10/693,414	<b>Applicant(s)</b> HAWLEY, RONALD C.	
	<b>Examiner</b> Monica A. Huson	<b>Art Unit</b> 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11 is/are rejected.
- 7) ☒ Claim(s) 10 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

This office action is in response to the Amendment filed 10 February 2006.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brussel et al. (U.S. Patent 6,221,293), in view of Matsumoto et al. (U.S. Patent 5,653,534).

Regarding Claim 1, Brussel et al., hereafter "Brussel," show that it is known to carry out a method for preparing a fiber reinforced resin for use in molding machines (Abstract) comprising threading at least one continuous fiber strand through a chamber (Figure 1, element 2); introducing into the chamber thermoplastic resin in a molten state, and thereby coating the fiber strand with thermoplastic resin (Figure 1, element 3, 8); and pushing the resin coated continuous fiber strand in a heated state into a barrel housing a rotatable screw simultaneously with the introduction of thermoplastic resin into the chamber and independently of the action of the screw (Figure 1, element 1). Brussel does not specifically show intermittent introduction of a thermoplastic resin into the coating chamber. Matsumoto et al., hereafter "Matsumoto," show that it is known to carry out a method for producing a fiber reinforced resin including intermittently introducing into the chamber thermoplastic resin in a molten state (Column 7, lines

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40-49). Matsumoto and Brussel are combinable because they are concerned with a similar technical field, namely, methods of producing a fiber reinforced resin. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Matsumoto's intermittent introduction control parameter during Brussel's molding process in order to easily control how much resin is coated onto the fiber.

Regarding Claim 2, Brussel shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show conveying the shaped mass to an injection molding machine. Matsumoto shows that it is known to carry out a method including a method wherein the screw is the feed screw of an injection molding machine (Column 12, lines 7-19). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use the injection molding machine of Matsumoto as a destination for Brussel's molding material in order to form a desired article from the molding material using a specific molding technology.

Regarding Claim 3, Brussel shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show conveying the shaped mass to a compression molding machine. Matsumoto shows that it is known to carry out a method including a method wherein said molding machine is a compression molding machine (Figure 1, element 150; Column 12, lines 7-19; It is noted that every injection machine involves a compression element.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use the compression molding machine of Matsumoto as a destination for Brussel's molding material in order to form a desired article from the molding material using a specific molding technology.

Regarding Claim 4, Brussel shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the fibers are cut by the feeds crew inside of said barrel (Column 2, lines 46-47), meeting applicant's claim.

Regarding Claim 5, Brussel shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein said barrel and screw comprise a compounding extruder in which the fiber and the resin are thoroughly mixed into a molten mass (Column 2, lines 46-62), meeting applicant's claim.

Regarding Claim 6, Brussel shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show conveying the shaped mass to a molding machine. Matsumoto shows that it is known to carry out a method including forming the extrudate mass from the compounding extruder into a compressible shape and thereafter conveying the shaped mass to a molding machine adjacent to the compounding extruder (Figure 1, elements 113, 140, 150). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use the molding machine of Matsumoto as a destination for Brussel's molding material in order to form a desired article from the molding material using a specific molding technology.

Regarding Claim 7, Brussel shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show conveying the shaped mass to a compression molding machine. Matsumoto shows that it is known to carry out a method including a method wherein said molding machine is a compression molding machine (Figure 1, element 150; It is noted that every injection machine involves a compression element.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use the

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compression molding machine of Matsumoto as a destination for Brussel's molding material in order to form a desired article from the molding material using a specific molding technology.

Regarding Claim 9, Brussel shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the screw is the feed screw of a profile extruding machine (Column 2, lines 46-62), meeting applicant's claim.

Regarding Claim 11, Brussel shows that it is known to carry out a method for preparing a fiber reinforced resin for use in molding machines (Abstract) comprising passing a continuous fiber strand through a chamber (Figure 1, element 2); introducing into the chamber thermoplastic resin in a molten state, and thereby coating the continuous fiber strand with thermoplastic resin (Figure 1, element 3, 8); and pushing the resin coated continuous fiber strand in a heated state into a fluidic conveying mechanism in conjunction with the introduction of thermoplastic resin into the chamber and independently of the action of the fluidic conveying mechanism (Figure 1, element 1). Brussel does not specifically show intermittent introduction of a thermoplastic resin into the coating chamber. Matsumoto shows that it is known to carry out a method for producing a fiber reinforced resin including intermittently introducing into the chamber thermoplastic resin in a molten state (Column 7, lines 40-49). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Matsumoto's intermittent introduction control parameter during Brussel's molding process in order to easily control how much resin is coated onto the fiber.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brussel and Matsumoto, further in view of Azari (U.S. Patent 5,268,050). Brussel shows the process as

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claimed as discussed in the rejection of Claims 1, 5, and 6 above, but he does not show using a transfer molding machine. Azari show that it is known to carry out a method of preparing a fiber reinforced resin wherein the molding machine is a transfer molding machine (Column 9, lines 23-25). Azari and Brussel are combinable because they are concerned with a similar technical field, namely, methods of preparing a fiber reinforced resin for use in molding machines. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Azari's transfer molding machine as that in Brussel's method in order to produce a specific article that must be transfer molded.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-9 and 11 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Allowable Subject Matter***

Claims 10 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 13 and 14 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art of record neither teaches nor suggests the claimed process for preparing a fiber-reinforced resin including a step in which the fiber strand is cut into predetermined lengths after being coated and

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prior to being directed into (claim 13) a barrel housing a rotatable screw, or (claim 14) a fluidic conveying mechanism.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patent is cited to further show the state of the art with regard to fiber reinforced resins usable in molding operations:

U.S. Patent 5,433,419 to Murakami

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,



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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)



Monica A Huson  
April 17, 2006



MARK EASHOO, PH.D  
PRIMARY EXAMINER

17 Apr 06